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Integrated Streambank Protection Guidelines

Preface

Outlines the guiding principles that governed development of the Aquatic Habitat Guidelines series in general and *Integrated Streambank Protection Guidelines* specifically.

Chapter 1, Integrated Streambank Protection

Introduces and provides an overview of the concepts presented in *Integrated Streambank Protection Guidelines*.

Chapter 2, Site Assessment

Describes how to assess the site-based causes of streambank failure.

Chapter 3, Reach Assessment

Describes how to assess the reach-based causes of streambank failure.

Chapter 4, Considerations for a Solution

Addresses a multitude of issues that must be taken into account prior to selecting a streambank-protection technique.

Chapter 5, Identify and Select Solutions

Provides a context and a series of matrices to help select the most suitable streambank-protection technique, and offers several case studies to help illustrate the effects of streambank-protection techniques.

Chapter 6, Techniques

Presents a number of streambank-protection techniques designed to prevent erosion from damaging property while at the same time protecting valuable fish and wildlife habitat.

Appendix A, Registration Form

Enables readers to order publications from the Washington Department of Fish and Wildlife.

Appendix B, Washington Department of Fish and Wildlife Contact Information

Presents information on how to locate and contact WDFW Area Biologists.

Appendix C, Glossary

Provides definitions of technical terms used in the text.

Appendix D, Hydrology

Examines the influences of surface water; its movement and changes in the quantity of flow in a channel, which must be taken into account in designing streambank-protection projects.

Appendix E, Hydraulics

Describes how to calculate shear stress and scour depth in natural stream channels, which are critical factors in streambank-protection design.

Appendix F, Fluvial Geomorphology

Provides a basic understanding of how land responds to the hydrology and hydraulics of stream channels.

Appendix G, Biological Considerations

Offers a general overview of the life cycles and habitat needs of salmonids found in Washington State.

Appendix H, Planting Considerations and Erosion-Control Fabric

Describes strategies for using various herbaceous and woody plant species in habitat restoration and enhancement, and provides guidance on how to use specialized fabrics to stabilize eroding streambanks.

Appendix I, Anchoring and Placement of Large Woody Debris

Details how large woody debris functions as salmonid habitat and describes how to position such debris to maximize its usefulness.

Appendix J, Monitoring Considerations

Presents key components of monitoring streambank-protection projects.

Appendix K, Literature Review of Revetments

Lists and describes 30 publications addressing the effects and impacts of various types of streambank-protection techniques.

Appendix L, Cost of Techniques

Details the numerous items that must be taken into account in estimating the cost of constructing streambank-protection projects.

Appendix M, Construction Considerations

Identifies critical elements that must be considered in constructing streambank-protection projects.